

THE OCCURRENCE OF LIZARDS OF THE GENUS *EMOIA*
(LACERTILIA, SCINCIDAE) IN AUSTRALIA

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ABSTRACT

The presence of the genus *Emoia* in Australia is confirmed. Two taxa — *E. cyanogaster longicauda* (Macleay) and *E. atrocostata irrorata* (Macleay) — occur on the islands of Torres Strait and mainland Queensland.

The literature on *Emoia* in Australia is confusing. Macleay (1877) described five new species of what is currently regarded as the genus *Emoia* from Australia and New Guinea, but his descriptions were not diagnostic (Boulenger 1887; Loveridge 1948; Brown 1953, 1954; Arnold 1966). All that could be extracted from Macleay (1877) was that at least two species of *Emoia* occurred on the Torres Strait Islands. Boulenger (1887) listed a specimen of *E. cyanogaster* from Murray Island, Torres Strait; he included Cape York in the distribution of *E. atrocostata* but listed no material from there. Barbour (1914) recorded *E. cyanogaster* from Murray Island, and Brown (1954) recorded it from Prince of Wales Island, Torres Strait. Worrell (1963) describes both species as occurring on the Australian mainland, and Arnold (1966) recorded a specimen of *E. atrocostata* in the Australian Museum from Cape York Peninsula, but as Cogger (1975) noted 'Australian mainland records are few and uncertain'.

Goldman, Hill, and Stanbury (1969) examined the reptile types in the Macleay Museum. Using Boulenger's (1887) key and following Loveridge (1948) they decided that Macleay's *Mabouia irrorata* and *M. marmorata* were synonyms of *Emoia atrocostata*; *Euprepis simillimus* and *E. longicaudis* were synonyms of *Emoia cyanogaster*; and *Euprepis submetallicus* was a synonym of *Emoia baudinii pallidiceps*. Brown (1953, 1954) earlier had placed *E. longicaudis* in *E. cyanogaster*; he considered *E. submetallicus* a good species, separating it from both *E. baudinii* and *E. pallidiceps*. The Macleay types are now housed in the Australian Museum, and I have examined the types of *M. irrorata*, *M. marmorata*,

E. simillimus, and *E. longicaudis*, and the species *E. cyanogaster* and *E. atrocostata* across their range. As a result of my examination of these specimens I concur with Brown (1954) and Goldman *et al* (1969) in the allocation of these Macleay names.

The two forms of *Emoia* recognized here as occurring in the Torres Strait and on the Australian mainland have been aligned with *E. cyanogaster longicauda* (*sensu* Brown 1954) and *E. atrocostata irrorata* (*sensu* Loveridge 1948). This does not signify confirmation of the status of these subspecies. These names are used merely as conveniences to place the available names in the Australian-Papuan region. A final decision on what subspecies should be recognised awaits a revision of these island-inhabiting lizards across their whole range from southeast Asia to Polynesia.

Specimens examined are housed in the following museums QM — Queensland Museum, AM — Australian Museum, NMV — National Museum of Victoria, BMNH — British Museum of Natural History. I thank J. Covacevich, H. G. Cogger, J. Coventry and A. Stimson respectively, for allowing me access to the specimens under their care.

Genus *Emoia*

DIAGNOSIS AND DESCRIPTION: See Greer (1974).

The Australian *Emoia* may be distinguished from all other Australian genera by the combination of the following characteristics: large (snout-vent length up to 100 mm) aboreal or rock-dwelling pentadactyl skinks with a moveable lower eyelid bearing a transparent disc; supranas-

sals present; frontoparietals fused; parietals in contact behind interparietal; no postnasal scale; upper labials 7 or 8; and oviparous with a clutch size of 2 eggs.

DISTRIBUTION: The islands of the southwest and south Pacific from southeast Asia east through the Indo-Australian Archipelago, the Philippines, New Guinea, the Bismarks and north into Micronesia, south into Melanesia and east into Polynesia (Greer 1974). In Australia, the Torres Strait Islands and eastern Cape York Peninsula.

***Emoia cyanogaster longicauda* (Macleay)**
(Plate 1, Fig. 1)

Euprepis longicaudis Macleay, 1877, p. 86. Darnley Island, Torres Strait, Queensland (Chevert Expedition). Lectotype AM R31859.

Euprepis simillimus Macleay, 1877, p. 69. Katow, Papua New Guinea (Chevert Expedition). Lectotype AM R31855.

Emoia cyanogaster longicauda: Brown, 1954, p. 264.

SPECIMENS EXAMINED

Queensland: Saibai Island (AM R48351-2); Darnley Island (AM R31856-60, 42621, 42563); Murray Island (BMNH 78.10.16.76; AM R4503, 9676, 42489-90,



FIG. 1: Distribution of *Emoia* in Queensland. ■ = *E. cyanogaster*, ▲ = *E. atrocostata*.

42554, 42571-2, 42643-5, 42647, 42649, 44260-7, 44927-9, 45970); Torres Strait (NMV D3383); Lake Boronto (QM J24730); Lockerbie (QM J24731); Heathlands (QM J29126); Dulhunty River Crossing (QM J24600); Claudie River, Iron Range (NMV D674; QM J24601, 27872, 28028); Mt Tozer, Iron Range (QM J31833); Leo Creek, Mellwraith Range (QM J32480); Cape York (NMV D565).

Papua: Trobirand Island (BMNH 95.10.17.26); Woodlark Island (BMNH 96.7.8.3); Fergusson Island (BMNH 95.4.26.33-4); Haveri (BMNH 97.12.10.64); Karimui (NMV D12055); Katow (AM R31853-8); Myal Simbif (NMV D38580); Oriomo Station (NMV D38574-6, 38578-9); 48 km above D'Albertis Junction, Fly River (AM R12158-61 A, B); Fly River (BMNH 86.5.20.8).

DIAGNOSIS: See Brown (1954).

Differs from *E. atrocostata* the only other Australian species of *Emoia* in colour (mainly tan with a lemon-yellow belly vs black or blackish-grey with a bluish-white belly), in more numerous subdigital lamellae (63-82 under fourth toe vs 29-36), fewer scales between nuchals and base of tail (51-58 vs 61-67), and in habitat (rainforests, and plantations, vs rocks and mangroves in the littoral zones).

DISTRIBUTION IN AUSTRALIA: Torres Strait Islands and eastern Cape York Peninsula from Lockerbie south to 13° 33' S in the Mellwraith Range (Fig. 1).

DESCRIPTION: Snout-vent length (mm): 43-98 (N=22, mean 76.9). Head width (%SVL): 12-18 (N=22, mean 15.0). Tail (%SVL): 194-268 (N=10, mean 222.2).

Prefrontals separate, very rarely forming a suture. First loreal not contacting supranasal. Supraciliaries mostly 7 or 8, rarely 6 or 9 (N=38, mean 7.6). Palpebral disc small. Ear opening round, equal in size to palpebral disc, with one or two large lobules on anterior edge, and smaller ones on other margins. Midbody scale rows 24-30 (N=22, mean 26.5); number of scales from nuchals to base of tail 51-58 (N=22, mean 54.8). Lamellae under fourth toe 63-82 (N=20, mean 70.7).

Dorsally and laterally tan coloured with body, legs, and tail with or without white and black spots; sometimes a thin dark line from nostril to eye, continuing backwards for varying distances. Upper and lower labials pale, sometimes outlined in black. Ventrally lemon-yellow in life, sometimes blue in preservative; distal three-quarters of tail speckled with brown.

REMARKS: From the type series of *Euprepis longicaudis* (AM R31856-60), R31859 has been selected as lectotype; from the type series of *E. simillimus* (AM R31853-5), R31855 has been selected as lectotype. Loveridge (1948) noted that *Emoia cuneiceps* De Vis (1890) agreed in every respect with *E. cyanogaster* except for the midbody scale rows. He suggested the 33-36 rows may have been a misprint for 23-26. Scott, Parker, and Menzies (1977) however, gave *Emoia cuneiceps* full species status.

HABITAT: Rainforest and its edges, wet scrub along creeks, and nearby gardens. Fred Parker (*in litt.*) notes that it is common on mainland New Guinea from sea level to about 1500 m, where it is found in all habitats as well as gardens and plantations.

***Emoia atrocostata irrorata* (Macleay)**
(Plate 1, fig. 1)

Mabouia irrorata Macleay, 1877, p. 66. Hall Sound, Papua New Guinea. (Chevert Expedition) Holotype AM R31851.

Mabouia marmorata Macleay, 1877, p. 65. Long Island, Torres Strait, Queensland. (Chevert Expedition). Holotype AM R31852.

Emoia atrocostata irrorata: Loveridge, 1948, p. 372.

SPECIMENS EXAMINED

Queensland: Dauan Island (AM R48561); Long Island (AM R31852); Horn Island (QM J25423-6, 25786, 25800); Somerset (QM J24732); West Cape York Peninsula (AM R9600).

Papua New Guinea: Fly River (BMNH 85.6.30.4); Hall Sound (AM R31851); Ela Beach, Port Moresby (J32826, 32828); Ferguson Island (BMNH 95.4.26.43).

DIAGNOSIS: See Loveridge (1948), and diagnosis of *E. c. longicauda*.

DISTRIBUTION IN AUSTRALIA: Islands of Torres Strait and tip of Cape York Peninsula at Somerset and Naru Point (Fig. 1).

DESCRIPTION: Snout-vent length (mm): 46-85 (N=10, mean 73.3). Head-width (%SVL) 14-16 (N=10, mean 14.8). Tail (%SLV): 103 (N=1).

Prefrontals separate. First loreal contacting supranasal. Supraciliaries 7, rarely 6, 8 or 9 (N=19, mean 7.2). Palpebral disc small. Ear opening round, equal in size to palpebral disc, with or without a small lobule on anterior margin. Midbody scale rows 34-39 (N=10, mean 35.5); number of scales from nuchals to base of tail

61-71 (N=10, mean 67.5). Lamellae under fourth toe 29-36 (N=10, mean 32.9).

Dorsally grey-brown with body, legs, and tail spotted with black. Laterally black with or without pale speckling; side of head sometimes grey brown. Ventrally cream with dark throat and toes.

HABITAT: Mangroves and rocks in the inter-tidal zone.

REMARKS: This lizard was very common on the trunks and branches of mangrove-trees on Horn Island. The first specimens collected during January, 1975 were flushed from holes in dead mangroves by the rising tide. They made their way higher up the tree as water filled the occupied holes. During low tide many individuals were basking in small patches of sunlight that penetrated the thick canopy. At Somerset and Naru Point they were common on the rocky shore, even in the splash zone, where they often hid in holes amongst oysters. At all localities individuals when hard pressed would jump into the water, then swim strongly with their robust tails.

ACKNOWLEDGMENTS

The work for this paper was carried out under an ARGC grant to H. Heatwole and H. Cogger to study the biogeography of Torres Strait, and an ABRS grant to study the ecology and biogeography of Cape York Peninsula (Chief Investigator, J. Kikkawa). I thank J. Covacevich, A. E. Greer, F. Parker and G. M. Storr for reading the manuscript of this paper.

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PLATE I

Above: *Emoia atrocostata*, Horn Island, Torres Strait. (Photograph R. Sadlier).

Below: *Emoia cyanogaster*, Heathlands, Cape York. (Photograph A. Easton).

